REMARKS

This responds to the Office Action mailed on March 2, 2005, rejecting claims 1-46 and 48. Claim 18 has been amended, leaving claims 1-46 and 48 for consideration upon entry of the present amendment. In view of the remarks below, Applicant respectfully requests reconsideration, removal of the rejections, and allowance of all of the pending claims.

CLAIM REJECTIONS UNDER 35 U.S.C. 102(e)

Paragraph 3 of the Office Action rejects claims 1, 2, 5, 12-15, 17-22, 24, 25, 27, 28, 30-35, 37-42, 44-46 and 48 under 35 U.S.C. 102(e) as being anticipated by Yates et al. (U.S. Patent No. 6,167,438). Paragraph 4 of the Office Action states that:

> As per claim 1, Yates discloses a method for serving requests for Internet information files in an Internet caching system, comprising the steps of:
>
> receiving , at a local Internet cache server (i.e.: cache server 38), a user request from a user (i.e.: client 12-1) for an Internet information file Yates, a user requests information via Internet including a plurality of cache server to a home server, col. 5 line 55-col 6 line 45 FIG 1];
>
> in response to the received request, making a query for said information file, if said information file has not been cached by said local server [Yates, the cache query, col 9 lines 1-7, col 10 lines 4-15, 53-63, col 11 lines 12-19; relay request, col 11 lines 37-49];
>
> in response to a reply to said query, making a file request for said information file, wherein said, file request is directed to a feeder (resource manager) means if said reply indicates that a central file server, storing cached Internet information files, has said information file cached [Yates, a resource manager, col 7 line 64-col 8 line 5; a single particular document is considered as being located at only one home server, col 6 line 62-col 7 line 8]; and
>
> querying, from said feeder means in response to said file request, said central file server for said information file, in order to decrease the load on said central file server [Yates, off-load excess load at the home server, col 7 lines 17-27, load balancing, col 8

> lines 29-33; col 13 line 57-col 14 line 7]. It was clear that the cache server reducing the workload from a Web home/central server.

(Office Action, page 3, line 17-page 4, line 17)

Paragraph 5 of the Office Action appears to state that claims 18 and 39 contain limitations similar to those set forth in claim 1 and that claims 18 and 39 are rejected for similar rationale as set forth with respect to claim 1.

Applicant traverses the rejections.

CLAIM 1

Claim 1 recites "[a] method for serving requests for Internet information files in an Internet caching system, comprising the steps of: receiving, at a local Internet cache server, a user request from a user for an Internet information file; in response to the received request, making a query for said information file, if said information file has not been cached by said local server; in response to a reply to said query, making a file request for said information file, wherein said file request is directed to a feeder means if said **reply indicates that a central file server**, storing cached Internet information files, **has said information file cached**; and querying, from said feeder means in response to said file request, said central file server for said information file, in order to decrease the load on said central file server." (emphasis added).

As further discussed below, Yates et al. do not teach or suggest a method that includes "making a query for [an] information file, if said information file has not been cached by said local server; in response to a reply to said query . . . making a file request for said information file, wherein said file request is directed to a feeder means if said **reply indicates that a central file server**, storing cached Internet information files, **has said information file cached**; and querying, from said feeder means in response to said file request, said central file server for said information file", as recited claim 1 (emphasis added).

Yates et al. disclose a method and system for distributed caching, prefetching and replication in a computer network (title; abstract, lines 1-3). The computer network includes clients 12, routers 14, cache servers 16 (note that some cache servers 16 are sometimes apparently referred to as leaf node cache servers 38 and that other cache servers 16 are

sometimes apparently referred to as non-leaf intermediate node cache servers 39) and home server(s) 20. A cache server 16 and associated router 14 preferably consist of four functional blocks: a HTTP proxy 22, a resource manager 24, a packet filter 26 and an IP proxy or snooper 28 (col. 7, lines 64 col. 8, line 3; FIG. 2). The HTTP proxy 22 implements a standard HTTP protocol (col. 8, lines 5-6). If the HTTP proxy 22 receives a request for a document not located in the local cache 18, it requests the document from the home server 20 (col. 8, lines 8-10). To determine if a requested document is located at the local cache server 16, the snooper 28 queries the filter 26 (col. 9, lines 1-2). If the filter 26 indicates that the requested document is cached and can be serviced locally, then the packet is intercepted and passed to the resource manager 24 (col. 9, lines 2-5). Otherwise, the packet is passed on to the next hop towards the destination home server 20 (col. 9, lines 5-7).

In a preferred embodiment, snoopers 28 inspect packets that fly by and intercept any {SYN } packets directed to HTTP home servers 20 (col. 9, lines 54-63). The snooper 28 acts as a proxy for, or "spoofs" the home server 20 by establishing a connection between the client 12 and the local transport layer in the cache server 16 (col. 9, line 66-col. 10, line 2). After the connection is established the snooper 28 inspects all packets that fly-by, and waits for the corresponding {GET} request (col. 10, lines 4-6). Once the {GET} request arrives, the snooper 28 queries the local filter 26 and the resource manager 24 to determine if the requested document is cached (col. 10, lines 6-9). If the document is cached the snooper 28 forwards the HTTP {GET} message to the local resource manager 24, waits for the resource manager 24 to service the request, and then terminates the connection (col. 10, lines 9-12). Otherwise, the snooper 28 may forward the document request in the form of a composite "piggy back" {SYN+GET} message in the direction of the home server 20 (col. 10, lines 13-21).

FIG. 5 is a detailed flow chart of the process as performed at the non-leaf intermediate nodes 39. (col. 11, lines 13-14). At step 51, the snooper 28 first spoofs upon receipt of the {SYN} from the leaf node 38, and intercepts the following {GET} request (col. 11, lines 13-16). In steps 52 and 53, queries are made to the filter 26 and resource manager 24 as before, to determine if the {GET} can be processed locally (col. 11, lines 16-19). If the request can be processed locally, step 55 completes the proxying for the home server 20 by establishing the server half of the TCP connection with the client 12, issuing the {GET} to the resource manager 24, returning the document to the client 12, and closing the TCP connection (col. 11,

lines 20-24). If the {GET} message cannot be processed locally, the {SYN+GET} is forwarded to the next node in the tree T (col. 11, lines 25-27). When none of the leaf node servers 38 or intermediate node servers 39 cache the requested document, the last intermediate server 39 intercepts the {SYN+GET} and relays an explicit HTTP {GET} request to the home server 20 (col. 11, lines 45-49). To accommodate this, step 54 of FIG. 5 can be replaced with the processes illustrated in FIG. 6 (col. 11, lines 50-51). In this case, if the next node is a home server 20, then snooper 28 establishes the server half of the TCP connection with the client 12, and replaces the {SYN+GET} with a {PROXY_GET} request to the local resource manager 24 (col. 11, lines 56-60). The resource manager 24 translates the {PROXY_GET} request to an explicit {GET} issued to the home server 20 (col. 11, lines 60-62). The response of the home server 20 response is then relayed to the client 12 in the same manner as if the cache server was caching the requested document (col. 11, lines 62-65).

Thus, Yates et al. disclose a computer network having clients 12, routers 14, cache servers 16 (leaf node cache servers 38 and non-leaf intermediate node cache servers 39) and home server(s) 20. Each cache server 16 and associated router 14 includes a resource manager 22 and a snooper 28. A snooper 28 for a particular cache server 16 (leaf node cache server 28 or intermediate cache server 39) forwards an HTTP {GET} request to the resource manager 22 for such cache server 16 if the requested document is cached therein (col. 10, lines 9-11). Otherwise, the snooper forwards the document request in the form of a composite "piggy back" {SYN+GET} message in the direction of the home server 20 (col. 10, lines 13-21). In addition, if none of the leaf nodes servers 38 and none of the intermediate node servers 39 cache the requested document, a snooper 28 for a last intermediate cache servers 39 will eventually forward a {PROXY_GET} request to the local resource manager 24 (which appears to be the resource manager of the last intermediate cache servers 39 (col. 11, lines 45-60). Such resource manager 24 thereafter translates the {PROXY_GET} request to an explicit {GET} issued to the home server 20 (col. 11, lines 60-62).

However, Yates et al. do not teach or suggest a reply (to a query for the document) that indicates that the home server 20 has the document cached. In other words, the application of Lindo teaches a "back and forth" exchange of information, which Yates et al. lack. Yates et al. do not teach or suggest any kind of **"reply"** to a query for the document that indicates that the central server has the document cached.

Therefore, even if the cache server 38 constitutes a local Internet cache server, as asserted in the Office Action, and even if the resource manager 24 constitutes a feeder, as further asserted in the Office Action, and even if the home server 20 constitutes a central file server, as further asserted in the Office Action, Yates et al. do not teach or suggest "making a query for said information file, if said information file has not been cached by said local server . . . making a file request for said information file, wherein said file request is directed to a feeder means if [a] **reply indicates that a central file server**, storing cached Internet information files, **has said information file cached**; and querying, from said feeder means in response to said file request, said central file server for said information file", as recited in claim 1 (emphasis added). As stated above, Yates et al. do not teach or suggest a reply (to a query for the document) that indicates that the home server 20 has the document cached.

Consequently, Yates et al. do not teach or suggest "[a] method for serving requests for Internet information files in an Internet caching system, comprising the steps of: receiving, at a local Internet cache server, a user request from a user for an Internet information file; in response to the received request, making a query for said information file, if said information file has not been cached by said local server; in response to a reply to said query, making a file request for said information file, wherein said file request is directed to a feeder means if said **reply indicates that a central file server**, storing cached Internet information files, **has said information file cached**; and querying, from said feeder means in response to said file request, said **central file server** for said information file, in order to decrease the load on said central file server", as recited in claim 1.

Accordingly, reconsideration and allowance of claim 1 is respectfully requested.

Claims 2-17 depend from claim 1 and are therefore patentable for at least the same reasons as stated above for claim 1. Accordingly, reconsideration and allowance of claims 2-17 is respectfully requested.

CLAIM 18

Claim 18 recites, as amended, "[a]n arrangement in an Internet caching system, said system comprising at least one local cache server and at least one central file server, both of which servers stores cached Internet information files, which arrangement, for decreasing the load on said central file server, includes a Feeder communicating with said local cache server

and with said central file server, wherein said Feeder includes: first means for receiving a request for an Internet information file from said local cache server; second means for deriving a **SQL or data base query** from an alphanumerical string received from said local cache server; and third means for querying said central file server for said Internet information file using said query derived by said second means."

Yates et al. do not teach or suggest an arrangement having a Feeder that includes a: "first means for receiving a request for an Internet information file from said local cache server; second means for deriving a **SQL or data base** query from an alphanumerical string received from said local cache server; and third means for querying said central file server for said Internet information file using said query derived by said second means", as recited in claim 18.

As stated above, Yates et al. disclose a computer network having clients 12, routers 14, cache servers 16 (leaf node cache servers 38 and non-leaf intermediate node cache servers 39) and home server(s) 20. Each cache server 16 and associated router 14 include a resource manager 22 and a snooper 28. A snooper 28 for a particular cache server 16 (leaf node cache server 28 or intermediate cache server 39) forwards an HTTP {GET} request to the resource manager 22 for such cache server 16 if the requested document is cached therein (col. 10, lines 9-11). Otherwise, the snooper forwards the document request in the form of a composite "piggy back" {SYN+GET} message in the direction of the home server 20 (col. 10, lines 13-21). In addition, if none of the leaf nodes servers 38 and none of the intermediate node servers 39 cache the requested document, a snooper 28 for a last intermediate cache servers 39 will eventually replace the {SYN+GET} with a {PROXY_GET} request to the local resource manager 24 (which appears to be the resource manager of the last intermediate cache servers 39 (col. 11, lines 45-60). Such resource manager 24 thereafter translates the {PROXY_GET} request to an explicit {GET} issued to the home server 20 (col. 11, lines 60-62).

However, translating a {PROXY_GET} request to an explicit {GET} does not constitute deriving a SQL or data base query from an alphanumerical string.

Therefore, even if the cache server 38 constitutes local Internet cache server, as asserted by the Office Action, and even if the resource manager 24 constitutes a feeder, as further asserted by the Office Action, and even if the home server 20 constitutes a central file server, as further asserted by the Office Action, Yates et al. do not teach or suggest an arrangement having a Feeder that includes a: "first means for receiving a request for an Internet information

file from said local cache server; second means for deriving a **SQL or data base query** from an alphanumerical string received from said local cache server; and third means for querying said central file server for said Internet information file using said query derived by said second means", as recited in claim 18. As stated above, translating a {PROXY_GET} request to an explicit {GET} does not constitute deriving a query from an alphanumerical string.

Consequently, Yates et al. do not teach or suggest "[a]n arrangement in an Internet caching system, said system comprising at least one local cache server and at least one central file server, both of which servers stores cached Internet information files, which arrangement, for decreasing the load on said central file server, includes a Feeder communicating with said local cache server and with said central file server, wherein said Feeder includes: first means for receiving a request for an Internet information file from said local cache server; second means for deriving a SQL or data base query from an alphanumerical string received from said local cache server; and third means for querying said central file server for said Internet information file using said query derived by said second means", as recited in claim 18.

Accordingly, reconsideration and allowance of claim 18 is respectfully requested.

Claims 19-38 and 48 depend from claim 18 and are therefore patentable for at least the same reasons as stated above for claim 18. Accordingly, reconsideration and allowance of claims 19-38 and 48 is respectfully requested.

CLAIM 39

Claim 39 recites "[a]n Internet caching system, comprising: a set of local Internet cache servers, wherein each local cache server is arranged to receive requests from users for Internet information files; at least one central file server included in a central cache site and storing cached Internet information files; and feeder means interconnecting said set of local cache servers with said central file server, said feeder means including at least one Feeder, which Feeder comprises means for communicating with at least one local cache server in accordance with a protocol used for communicating between Internet cache servers and means for retrieving Internet information files from said central file server using **data base** queries, thereby decreasing the load on said central file server." (emphasis added).

Yates et al. do not teach or suggest a system including feeder means including at least one Feeder, where the Feeder comprises "means for communicating with at least one local

cache server in accordance with a protocol used for communicating between Internet cache servers and means for retrieving Internet information files from said central file server using **data base** queries", as recited in claim 39 (emphasis added).

As stated above, Yates et al. disclose a computer network having clients 12, routers 14, cache servers 16 (leaf node cache servers 38 and non-leaf intermediate node cache servers 39) and home server(s) 20. Each cache server 16 and associated router 14 include a resource manager 22 and a snooper 28. A snooper 28 for a particular cache server 16 (leaf node cache server 28 or intermediate cache server 39) forwards an HTTP {GET} request to the resource manager 22 for such cache server 16 if the requested document is cached therein (col. 10, lines 9-11). Otherwise, the snooper forwards the document request in the form of a composite "piggy back" {SYN+GET} message in the direction of the home server 20 (col. 10, lines 13-21). In addition, if none of the leaf nodes servers 38 and none of the intermediate node servers 39 cache the requested document, a snooper 28 for a last intermediate cache servers 39 will eventually forward a {PROXY_GET} request to the local resource manager 24 (which appears to be the resource manager of the last intermediate cache servers 39 (col. 11, lines 45-60). Such resource manager 24 thereafter translates the {PROXY_GET} request to an explicit {GET} issued to the home server 20 (col. 11, lines 60-62).

However, an HTTP {GET} is ***not* a data base query**.

Therefore, even if the cache server 38 constitutes local Internet cache server, as asserted by the Office Action, and even if the resource manager 24 constitutes a feeder, as further asserted by the Office Action, and even if the home server 20 constitutes a central file server, as further asserted by the Office Action, Yates et al. do not teach or suggest system including feeder means including at least one Feeder, where the Feeder comprises "means for communicating with at least one local cache server in accordance with a protocol used for communicating between Internet cache servers and means for retrieving Internet information files from said central file server using **data base** queries", as recited in claim 39 (emphasis added). Although information may be retrieved from the home server 20, there is no means for retrieving Internet information files from said central file server using data base queries. As stated above, an HTTP {GET} is not a data base query. Further, it is respectfully noted that Yates et al. at col. 17, lines 60-67 relied on by the Examiner merely discloses that "[t]he cache servers 16 can also be used to **host replicas of databases**, search index files, and-other popular

documents by acting as load splitters from the service provider perspective. In other words, database providers can arrange to have their documents placed into the network 10, pushing out data closer to the clients 12 that desire access to it, wherever these placements might be." Yates et al. at col. 17, lines 60-67 do not teach or suggest, contrary to the Examiner's position recited at page 3, paragraph (c) of the Office Action, retrieving Internet information files from said central file server using data base queries, as claimed.

Consequently, Yates et al. do not teach or suggest "[a]n Internet caching system, comprising: a set of local Internet cache servers, wherein each local cache server is arranged to receive requests from users for Internet information files; at least one central file server included in a central cache site and storing cached Internet information files; and feeder means interconnecting said set of local cache servers with said central file server, said feeder means including at least one Feeder, which Feeder comprises means for communicating with at least one local cache server in accordance with a protocol used for communicating between Internet cache servers and means for retrieving Internet information files from said central file server using **data base** queries, thereby decreasing the load on said central file server", as recited in claim 39 (emphasis added).

Accordingly, reconsideration and allowance of claim 39 is respectfully requested.

Claims 40-46 depend from claim 39 and are therefore patentable for at least the same reasons as stated above for claim 39. Accordingly, reconsideration and allowance of claims 40-46 is respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. 103(a)

Paragraph 34 of the Office Action rejects claims 6-11, 16, 23, 29 and 36 under 35 U.S.C. 103(a) as being unpatentable over by Yates et al. (U.S. Patent No. 6,167,438) in view of Harel (U.S. Patent No. 5, 873,081). Applicant respectfully traverses.

The Examiner alleges that Harel discloses a method and mechanism for filtering incoming electronic documents against user queries, teaches a filtering process including a matching list containing term and query identifiers (or query number) which is associated to the document delivery [Harel col. 11, lines 15-33].

The Examiner concludes that it would be obvious to one having ordinary skill in the art at the time the invention was made to incorporate the query identifiers or query number associated to the delivery file as taught by Harel into the Yates' apparatus in order to utilize the database query.

It is respectfully submitted that Harel teaches a plurality of user queries (from a plurality of users) including terms connected by logical operators is received and embedded into a directed acyclic graph (DAG) having a plurality of nodes. Each node in the DAG includes pointers to any successor nodes thereof, the terms and phrases in the queries (which are leaves of input expression trees) are embedded as source nodes in the graph, and the operators embedded as internal nodes. (See Col. 2, lines 16-22.) In particular, col. 11, lines 22 – 33, upon which the Examiner relies, discloses that compiling users identities into a list associated with a document takes time, and thus it has been found more efficient to add users to such a delivery list after the document filtering 34 process is complete, i.e., outside of the loop of steps 610-620. Preferably, the filtering process 34 instead outputs the matched list 62 containing term and query identifiers. A copy of the matched list 62 is then provided to another process 64 (FIG. 2), possibly on a separate machine, for matching the nodes in the matched list 62 to the query identifiers associated and stored therewith, and then with the identities of the users who submitted those queries, for the subsequent document delivery.

Harel does not overcome the deficiencies noted in Yates et al. with respect to claims 1 and 18, from which claims 6-11, 16, 23, 29 and 36 depend. More specifically, use of the document filtering method of Harel does not cure the deficiencies noted above with respect to claims 1 and 18.

Yates et al. in combination with Harel does not teach or suggest a reply (to a query for the document) that indicates that the home server 20 has the document cached. In other words, the application of Lindo teaches a "back and forth" exchange of information, which Yates et al. lack. Yates et al. do not teach or suggest any kind of **"reply"** to a query for the document that indicates that the central server has the document cached, as in claim 1.

Consequently, Yates et al. in view of Harel do not teach or suggest "[a] method for serving requests for Internet information files in an Internet caching system, comprising the steps of: receiving, at a local Internet cache server, a user request from a user for an Internet information file; in response to the received request, making a query for said information file, if said information file has not been cached by said local server; in response to a reply to said query, making a file request for said information file, wherein said file request is directed to a

feeder means if said **reply indicates that a central file server**, storing cached Internet information files, **has said information file cached**; and querying, from said feeder means in response to said file request, said **central file server** for said information file, in order to decrease the load on said central file server", as recited in claim 1.

Claims 6-11 and 16 depend from claim 1 and are therefore patentable for at least the same reasons as stated above for claim 1. Accordingly, reconsideration and allowance of claims 6-11 and 16 is respectfully requested.

Further, Harel, like Yates et al., do not teach or suggest deriving a **SQL or a data base query** from an alphanumerical string received from said local cache server

Consequently, Yates et al. in view of Harel do not teach or suggest "[a]n arrangement in an Internet caching system, said system comprising at least one local cache server and at least one central file server, both of which servers stores cached Internet information files, which arrangement, for decreasing the load on said central file server, includes a Feeder communicating with said local cache server and with said central file server, wherein said Feeder includes: first means for receiving a request for an Internet information file from said local cache server; second means for deriving a SQL or data base query from an alphanumerical string received from said local cache server; and third means for querying said central file server for said Internet information file using said query derived by said second means", as recited in claim 18.

Claims 23, 29, and 36 depend from claim 18 and are therefore patentable for at least the same reasons as stated above for claim 18. Accordingly, reconsideration and allowance of claims 23, 29, and 36 is respectfully requested.

Paragraph 43 of the Office Action rejects claims 3, 4, 26 and 43 under 35 U.S.C. 103(a) as being unpatentable over by Yates et al. (U.S. Patent No. 6,167,438) in view of Wessels et al. [Cache Digest, April 1998]. Applicant respectfully traverses.

The Examiner asserts that it [was] well known in the art [at the time of the invention] that Internet cache protocol (ICP) or Cache Digest was used among Web cache server to improve the exchange queries and replies [Wessels, Abstract, page1].

The Examiner concludes that therefore it would have obvious to one of ordinary skill in the art at the time of the invention was made to realize that using the ICP or Cache Digest would provide the cache knowledge of whether the neighbor holds the requested data.

However, it is respectfully noted that claims 3 and 4 depend from claim 1, claim 26 depends from claim 18, and claim 43 depends from claim 39, all of which (claims 1, 18 and 39) are submitted as being allowable for defining over Yates et al. as discussed above. Further, it is respectfully noted that use of ICP or Cache Digest does not cure the deficiencies noted above with respect to Yates et al. Thus, it is respectfully requested that the rejection to claims 3, 4, 26 and 43 be withdrawn.

CONCLUSION

This application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the attorney at the telephone number listed below.

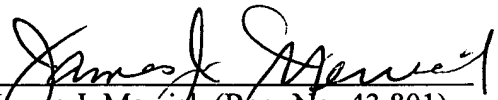
Because the reasons above are sufficient to traverse the rejections, Applicants have not explored, nor do they now present, other possible reasons for traversing such rejections. Nonetheless, Applicants expressly reserve the right to do so, if appropriate, in any future proceeding and/or response to any future Office Actions.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time.

If an additional fee is required, authorization is hereby given to charge such additional fees to Deposit Account No. 50-3569.

Respectfully submitted,

Date: September 2, 2005

By 

James J. Merrick (Reg. No. 43,801)
MCCARTER & ENGLISH, LLP
City Place I
185 Asylum Street
Hartford, Connecticut 06103-3495
Ph.: (860) 275-7005
Fax: (860) 724-3397